

Appl. No. 10/542,136
Amdt. Dated March 27, 2006
Reply to Office Action of December 27, 2005

Listing of Claims:

1. (Previously Presented) An analog-to-digital conversion arrangement for converting an analog input signal into a digital output signal with a most significant part and a least significant part, comprising sample means for sampling the analog input signal, a plurality of coarse resolution analog-to-digital converters for converting the sampled analog input signal into a coarse digital signal representing the most significant part of the digital output signal, whereby the coarse resolution analog-to-digital converters are operated in an interleaved way, characterized in that the analog-to-digital conversion arrangement further comprises a fine resolution analog-to-digital converter for converting the sampled analog input signal into a fine digital signal representing the least significant part of the digital output signal, based upon the coarse digital signal generated by any of said coarse resolution analog-to-digital converters.

2. (Previously Presented) An analog-to-digital conversion arrangement as claimed in claim 1, characterized in that the coarse resolution analog-to-digital converters are successive approximation analog-to-digital converters.

3. (Previously Amended) An analog-to-digital conversion arrangement as claimed in claim 1, characterized in that the fine resolution analog-to-digital converter is a successive approximation analog-to-digital converter.

4. (Previously Amended) An analog-to-digital conversion arrangement as claimed in claim 1, characterized in that the coarse resolution analog-to-digital converters are overranging successive approximation analog-to-digital converters.

5. (Currently Amended) An analog-to-digital conversion arrangement as claimed in claim 2, characterized in that each of the coarse resolution successive approximation analog-to-digital converters comprises separately a sample-and-hold circuit, a hold buffer amplifier connected thereto, at least one comparator and a coarse resolution

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digital-to-analog converter, the inputs of said at least one comparator being connected to said hold buffer amplifier and said coarse resolution digital-to-analog converter, the analog-to-digital conversion arrangement further comprising a common digital control unit connected to the outputs of the comparators of the coarse resolution successive approximation analog-to-digital converters.

6. (Previously Presented) An analog-to-digital conversion arrangement as claimed in claim 5, characterized in that a pair of coarse resolution analog-to-digital converters has a common coarse digital-to-analog converter which in combination with switches is operating in two interleaved coarse resolution analog-to-digital converters.

7. (Currently Amended) An analog-to-digital conversion arrangement as claimed in claim 5, characterized in that the fine resolution analog-to-digital converter comprises a hold buffer amplifier successively connected to the said sample-and-hold circuits by means of switches, at least one comparator and a fine resolution digital-to-analog converter, the input of said at least one comparator being connected to said hold buffer amplifier and said coarse resolution digital-to-analog converter and having at least one output connected to said common digital control unit.

8. (Currently Amended) An analog-to-digital conversion arrangement as claimed in claim 5, characterized in that, in order to reduce a charge redistribution between the capacitors of the respective sample-and-hold circuits and the input capacitor of the buffer amplifier of the fine resolution analog-to-digital converter, switches are provided for successively briefly connecting the latter buffer amplifier to the sample-and-hold circuits.

9. (Previously Presented) A method for converting an analog input signal into a digital output signal with a most significant part and a least significant part, comprising: sampling the analog input signal by sampling means; converting the sampled analog input signal into a coarse digital signal by a plurality of coarse resolution analog-to-

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digital converters operated in an interleaved way, the coarse digital signal representing the most significant part of the digital output signal, characterized in that the method further comprises: converting the sampled analog input signal into a fine digital signal by a fine resolution analog-to-digital converter and using the coarse digital signal generated by any of said coarse resolution analog-to-digital converters, the fine digital signal representing the least significant part of the digital output signal.

10. (Previously Amended) A system for signal processing comprising an analog-to-digital conversion arrangement as claimed in claim 1.

11. (Currently Amended) A system as claimed in claim 9 10, characterized in that the system is arranged for processing video or communication signals.